

# Work Order ID 114852

March-14-14 1:55:34 PM

\*114852\*

Page 1

Item ID: D119-696-011

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Stop

\*NS2\*

Item Name: Single Mirror Installation

Start Date: 3/14/14 Start Qty: 2.00

\*2\*

Cust Item ID:

Required Date: 3/28/14 Req'd Qty: 2.00

\*2\*

Customer:

Reference:

Run Start

\*NR1\*

Approvals: Process Plan: *MLJ*

Date: *14-03-14* Tooling:

Date:

Stop

\*NR2\*

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

DSI9578

A

IIN-D119-696

A

100

Document Control

0.00

\*100\*

DOCUMENT CONTROL

0.00

DC

Memo *M.L.D.*

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D119-696-011

CHG006

DAS  
31  
9-89

*14-03-17*

*2x*

110

0.00

\*110\*

Packaging

0.00

Packaging

Memo

Packaging

Pick Kit:

DAS  
28  
9-89

*2x*

*14-03-14*

D  
C  
9-89

# Work Order ID 114852

March-14-14 1:55:34 PM

**\*114852\***

Page 2

Item ID: D119-696-011

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Stop

**\*NS2\***

Item Name: Single Mirror Installation

Start Date: 3/14/14 Start Qty: 2.00

**\*2\***

Cust Item ID:

Required Date: 3/28/14 Req'd Qty: 2.00

**\*2\***

Customer:

Reference:

Run Start

**\*NR1\***

Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop

**\*NR2\***

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
---------	--------	-----------	------------	------------	---------------	-------------

120

QC4- 100% Inspect kits for completeness

0.00

**\*120\***

QC

Memo

0.00

Quality Control

DAS  
31  
9-89

14-03-17

2x

130

0.00

**\*130\***

Packaging

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D119-696-011

Location: 011A

PPP Rev: A

MAR 17 2014

(2)

DAS  
06  
9-89

140

QC21- Final Inspection - Work Order Release

0.00

**\*140\***

QC

Memo

0.00

Quality Control

14-03-18

14-03-18



## Picklist Print

March-14-14 1:55:40 PM

**Work Order ID:** 114852

**Parent Item:** D119-696-011

**Parent Item Name:** Single Mirror Installation

**\*114852\***

**\*D119-696-011\***

**Start Date:** 3/14/14

**Start Qty: 2.00**

**Required Date:** 3/28/14

**Required Qty: 2.00**

**Comments:** IPP Rev:A new issue DD 10.04.15 verified by:EC  
11.01.19 AS PER CHG005 DD VRF:EC  
AS PER CHG006 DD VRF:EC

[illegible]



## Picklist Print

March-14-14 1:55:40 PM

Work Order ID: 114852

Parent Item: D119-696-011

Parent Item Name: Single Mirror Installation

\*114852\*

\*D119-696-011\*

D3083-1

Manufactured No

110 Each

12.0000

Start Date: 3/14/14

Start Qty: 2.00

Required Date: 3/28/14

Required Qty: 2.00

2x \*D3083-1\*

Placard

DAS  
31  
9-89LocationLoc Qty

Mezz

12

61893

12

110 Each

Loc Code

130.0000

\*\*

AN526-1032R9

Purchased No

2x \*AN526-1032R9\*

Screw

DAS  
31  
9-89LocationLoc Qty

ST345

100

M127363

100

ST346

30

M126105

30

110 Each

Loc Code

6,477.000

\*\*

NAS1149D0363J

Purchased No

2x \*NAS1149D0363J\*

Washer

DAS  
31  
9-89LocationLoc Qty

GA

23

124392

23

ST510a

6454

m126319

262

m127813

1192

m128429

5000

110 Each

Loc Code

62.0000

\*\*

MS21919-DG5

Purchased No

2x \*MS21919-DG5\*

Clamp

DAS  
31  
9-89LocationLoc Qty

ST321

62

m127831

37

m128401

25

Loc Code

Shop Packet Print

March-14-14 1:55:41 PM



# Picklist Print

March-14-14 1:55:41 PM

Work Order ID: 114852

Parent Item: D119-696-011

Parent Item Name: Single Mirror Installation

\*114852\*

\*D119-696-011\*

Start Date: 3/14/14

Required Date: 3/28/14

Start Qty: 2.00

Required Qty: 2.00

MS27039-1-09

Purchased

No

110

Each

715.0000

\*\*

DAS  
28  
9-89

14-03-14

2x \*MS27039-1-09\*

Screw

DAS  
31  
9-89

## Location

## Loc Qty

FP001	46
18057	46
GA	100
111650	100
ST305	551
122814	1
124859	150
125646	200
125654	200
ST508	18
124093	18

## Loc Code

21.0000

\*\*

DAS  
28  
9-89

MS35489-9

Purchased

No

110

Each

21.0000

\*\*

2x \*MS35489-9\*

Grommet

DAS  
31  
9-89

## Location

## Loc Qty

ST289A	21
107376	21

## Loc Code

434.0000

\*\*

DAS  
28  
9-89

ALS4-1032-130

AELS4-1032-130 Purchased

No

110

Each

434.0000

\*\*

2x \*ALS4-1032-130\*

Rivnut

DAS  
31  
9-89

## Location

## Loc Qty

ST279	377
M128179	8
M128211	369
st510	57
M126109	57

## Loc Code

March-14-14 1:55:41 PM

Shop Packet Print



# DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D119-696 REV. A AND  
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D119-696 REV. 0

REF FAA STC: SR01043SE

REF TO LETTERS OF ACCEPTANCE: C-11-0119/-0120/-0121

REF EASA STC: EASA.IM.R.S.01551

## PURPOSE

This service instruction details the D119-696-011/-013 Cargo Mirror Installations at CHG 006 which have been improved with D4450-1/-043 Arm/Arm Assembly. The D4450-1/-043 replaces D3074-1/-3 and feature a more robust and ergonomic design. Customers/operators who wish to upgrade existing D119-696-011/-013 Cargo Mirror Installations at earlier change numbers may procure the DSI-9578-011/-013 Kit from Dart. The revised weight and balance and parts list on page 2 of this service instruction are to be used for D119-696-011/-013 Cargo Mirror Installations at CHG 006.

## INSTALLATION

### Replacement of D3074-1 arm on D119-696-011 Single Mirror Installation:

1. Remove and discard existing D3074-1 Arm and existing D2057 Plug.
2. Install D4450-1 Arm and replacement D2057 Plug in accordance with Figure 1 of this service instruction.
3. Install D2011-101 Mirror to D4450-1 Arm using D3014-1 Locknut as shown in Figure 1 of this service instruction.

### Replacement of D3074-3 Arm on D119-696-013 Dual Mirror Installation:

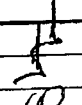
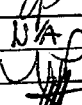
1. Remove and discard the existing D3074-3 Arm and associated parts/hardware. Note that the D3074-3 Arm also includes 2 X D2052 Brackets, 2 X D2055 Clamps, a D2056 Bellcrank, 2 X D2054 Bushings, and attaching hardware.
2. Install D4450-043 Arm Assembly in accordance with Figure 1 of this service instruction.
3. Install 2 X D2011-101 Mirrors to D4450-043 Arm Assembly using D3014-1 Locknuts as shown in Figure 1 of this service instruction.

## MAINTENANCE AND CONTINUED AIRWORTHINESS

Inspection requirements for D4450-1/-043 Arm are identical to D3074-1/-3 Arm they are replacing. Refer to ICA-D119-696.

## WEIGHT AND BALANCE

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D119-696-011	2.3 lb	7.0 in	16.1 in-lb	22.0 in	50.6 in-lb
Cargo Mirror Installation (CHG 006)	1.04 kg	0.18 m	0.19 m-kG	0.56 m	0.58 m-kG
D119-696-013	3.2 lb	1.0 in	3.2 in-lb	22.0 in	70.4 in-lb
Cargo Mirror Installation (CHG 006)	1.45 kg	0.03 m	0.04 m-kG	0.56 m	0.81 m-kG

A	NEW ISSUE	MB	11.10.04
REV.	DESCRIPTION	BY	DATE
DESIGN		<b>DART AEROSPACE USA, INC</b> KENT, WA	
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.		REV. A SHEET 1 OF 3	
DATE	11.10.04	TITLE MIRROR ARM UPGRADE SCALE NTS	
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11-30-11  
114852-11  
JAC

# PARTS LIST

Qty -011	Qty -013	Qty -041	Qty -043	Part Number	Description
X				D119-696-011	SINGLE CARGO MIRROR INSTALLATION
	X			D119-696-013	DUAL CARGO MIRROR INSTALLATION
1		X		D119-696-041	SINGLE CARGO MIRROR ASSEMBLY
	1		X	D119-696-043	DUAL CARGO MIRROR ASSEMBLY
		1	2	D2011-101	MIRROR ASSEMBLY
1	1			D2053	BRACKET
		2	**2	D2054	BUSHING
		2	**2	D2055	CLAMP
		1	**1	D2056	BELL CRANK
		1		D2057	PLUG
1	1			D2067	CONNECTOR
1	1			D2071	CABLE ASSEMBLY
		*1	*2	D3014-1	LOCKNUT
		1	**1	D3072-1	BRACKET
		1	**1	D3072-2	BRACKET
1	1			D3083-1	PLACARD
		1		D4450-1	ARM (WAS D3074-1)
			1	D4450-043	ARM ASSEMBLY (WAS D3074-3)
4	4			AN526-1032R9	SCREW
4	4	6	**6	AN960JD10	WASHER
		*1	*2	AN960JD416L	WASHER
		3	**3	MS21042L3	NUT (or MS21042-3)
2	2			MS21919DG5	CLAMP
4	4			MS27039-1-09	SCREW
		3	**3	MS27039-1-18	SCREW
1	1			MS35489-9	GROMMET
2	2			AKS7-1032-130	INSERT (or ALS7-1032-130 or AKS4-1032-130 or ALS7-1032-130 or AELS-032-130)

\* INCLUDED AS PART OF D2011-101 MIRROR ASSEMBLY

\*\* INCLUDED WITH D4450-043 ARM

Qty -011	Qty -013	Part Number	Description
X		DSI-9578-011	MIRROR ARM UPGRADE KIT (SINGLE CARGO MIRROR INSTALLATION)
	X	DSI-9578-013	MIRROR ARM UPGRADE KIT (DUAL CARGO MIRROR INSTALLATION)
	**2	D2054	BUSHING
	**2	D2055	CLAMP
	**1	D2056	BELL CRANK
1		D2057	PLUG
	**1	D3072-1	BRACKET
	**1	D3072-2	BRACKET
1		D4450-1	ARM
	1	D4450-043	ARM ASSEMBLY
	**6	AN960JD10	WASHER
	**3	MS21042L3	NUT (or MS21042-3)
	**3	MS27039-1-18	SCREW

\*\* INCLUDED WITH D4450-043 ARM

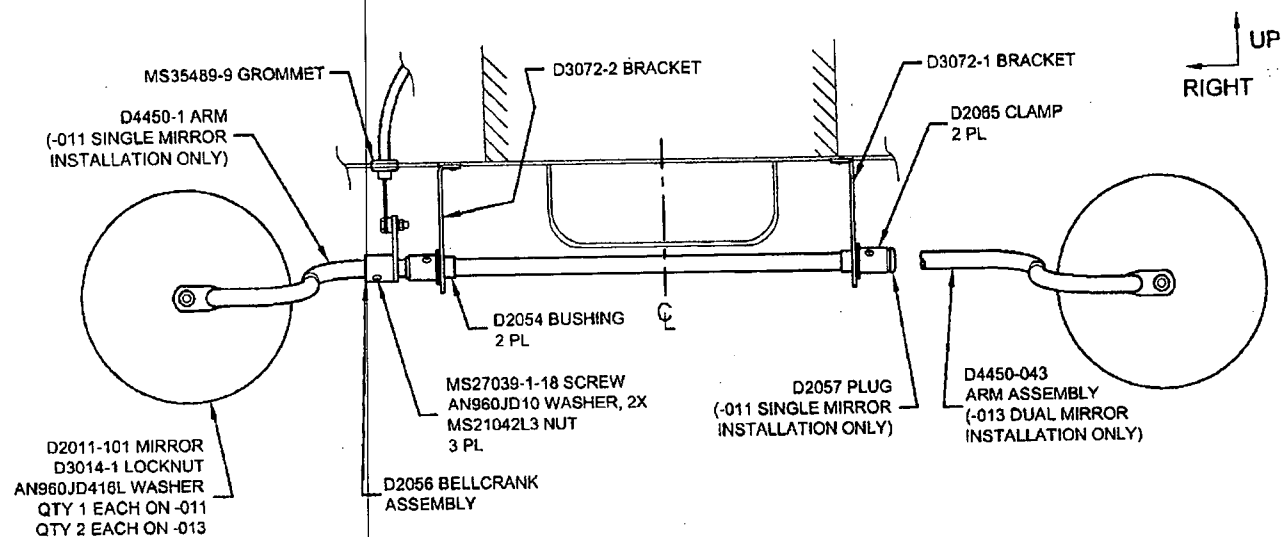
DESIGN	
DRAWN	
CHECKED	
MFG. APPR.	
APPROVED	
DE APPR.	
DATE	11.10.04

**DART AEROSPACE USA, INC**  
KENT, WA

DRAWING NO. REV. A  
DSI 9578 SHEET 2 OF 3

TITLE SCALE  
MIRROR ARM UPGRADE NTS

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**FIGURE 1**

D119-696-011/-013 SINGLE/DUAL MIRROR INSTALLATION

DESIGN		<b>DART AEROSPACE USA, INC</b>
DRAWN		KENT, WA
CHECKED		DRAWING NO.
MFG. APPR.		DSI 9578
APPROVED		TITLE
DE APPR.		MIRROR ARM UPGRADE
DATE	11.10.04	REV. A
		SHEET 3 OF 3
		SCALE
		NTS

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REFERENCE ONLY MAR 17 2014

DAS  
31  
9-89

## 4. WEIGHT AND BALANCE

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D119-696-011	2.2 lb	7.0 in	15.4 in-lb	22.0 in	48.4 in-lb
Cargo Mirror Installation	1.00 kg	0.28 m	0.28 m-kG	0.87 m	0.87 m-kG
D119-696-013	3.0 lb	1.0 in	3.0 in-lb	22.0 in	66.0 in-lb
Cargo Mirror Installation	1.36 kg	0.04 m	0.05 m-kG	0.87 m	1.18 m-kG

## 5. PARTS LIST

Qty -011	Qty -013	Qty -041	Qty -043	Part Number	Description
X				D119-696-011	SINGLE CARGO MIRROR INSTALLATION
	X			D119-696-013	DUAL CARGO MIRROR INSTALLATION
1		X		D119-696-041	SINGLE CARGO MIRROR ASSEMBLY
	1		X	D119-696-043	DUAL CARGO MIRROR ASSEMBLY
		1	2	D2011-101	MIRROR ASSEMBLY
1	1			D2053	BRACKET
		2	2	D2054	BUSHING
		2	2	D2055	CLAMP
		1	1	D2056	BELL CRANK
		1		D2057	PLUG
1	1			D2067	CONNECTOR
1	1			D2071	CABLE ASSEMBLY
		1	2	*D3014-1	LOCKNUT
		1	1	D3072-1	BRACKET
		1	1	D3072-2	BRACKET
		1		D3074-1	ARM
			1	D3074-3	ARM
1	1			D3083-1	PLACARD
4	4			AN526-1032R9	SCREW
4	4	6	6	AN960JD10	WASHER
		1	2	*AN960JD416L	WASHER
		3	3	MS21042L3	NUT (or MS21042-3)
2	2			MS21919DG5	CLAMP
4	4			MS27039-1-09	SCREW
		3	3	MS27039-1-18	SCREW
1	1			MS35489-9	GROMMET
2	2			AKS7-1032-130	INSERT (or ALS7-1032-130 or AKS4-1032-130 or ALS7-1032-130 or AELS-032-130)

\*INCLUDED AS PART OF D2011-101 MIRROR ASSEMBLY

# Work Order ID 114852

March-14-14 1:55:34 PM

**\*114852\***

Page 1

Item ID: D119-696-011

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Single Mirror Installation

Start Date: 3/14/14 Start Qty: 2.00

**\*2\***

Cust Item ID:

Required Date: 3/28/14 Req'd Qty: 2.00

**\*2\***

Customer:

Reference:

Run Start **\*NR1\***

Approvals: Process Plan: *MLJ*

Date: *14-03-14*

Tooling:

Date:

Stop **\*NR2\***

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr Revision Nbr

DSI9578 A  
IIN-D119-696 A

100

Document Control

0.00

**\*100\***

DC

DOCUMENT CONTROL

0.00

Doc.Control -USB or Paperwork

Memo *M.L.*

Photocopy bluefile & type labels per PPP D119-696-011 CHG006

110

0.00

**\*110\***

Packaging

Packaging

Memo

0.00

Packaging

Pick Kit:

DAS  
28  
9-89

2X

14-03-14

*MLJ 14-03-17*  
*(2)*